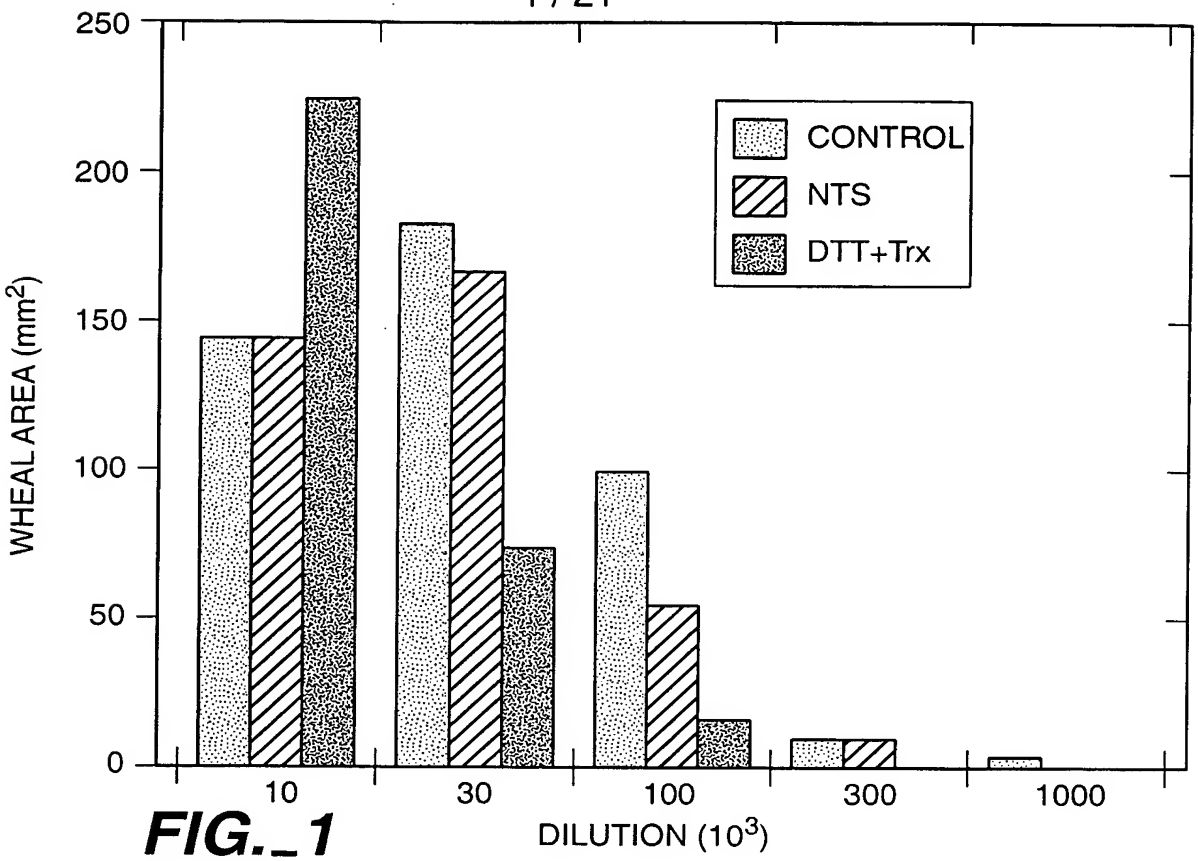

250
200
150
100
50
0
WHEAL AREA (mm²)
CONTROL
NTS
DTT+Trx
10
30
100
300
1000
DILUTION (10³)

FIG._1

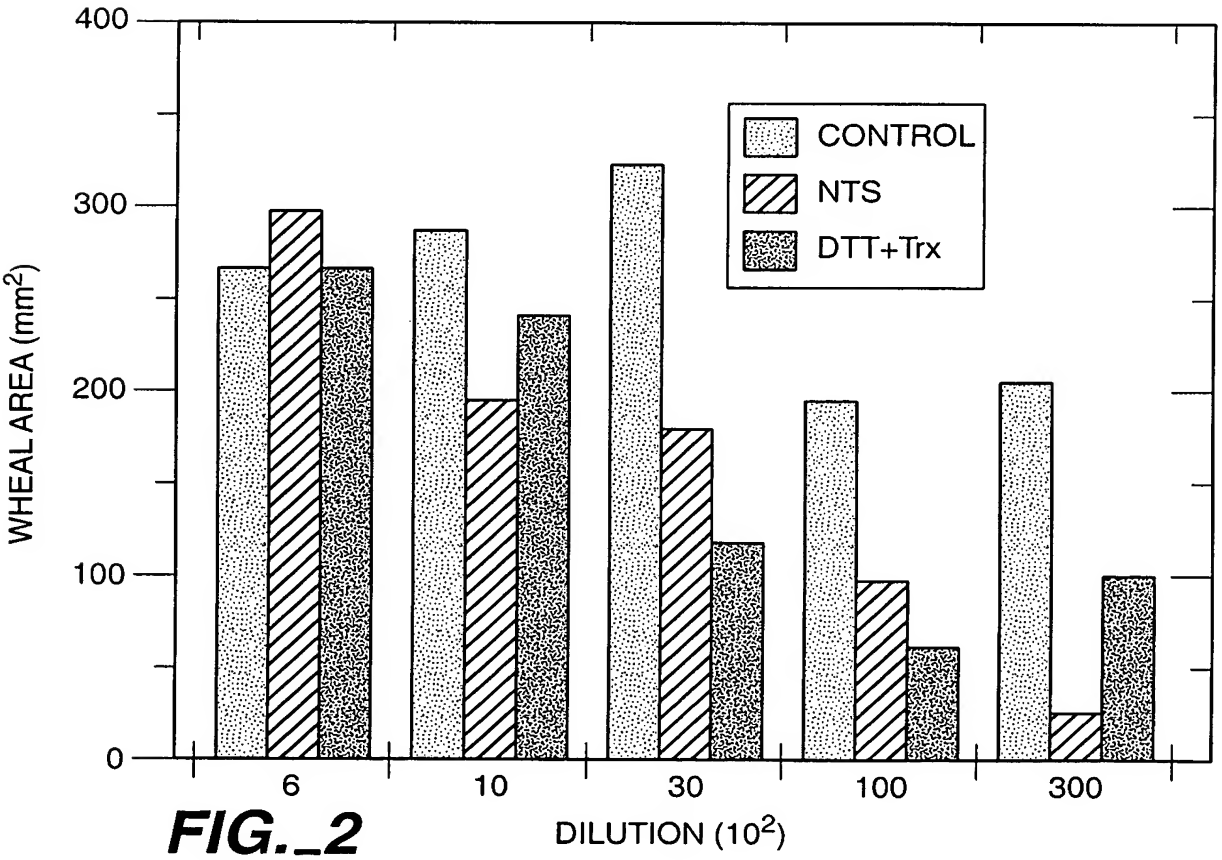

400
300
200
100
0
WHEAL AREA (mm²)
CONTROL
NTS
DTT+Trx
6
10
30
100
300
DILUTION (10²)

FIG._2

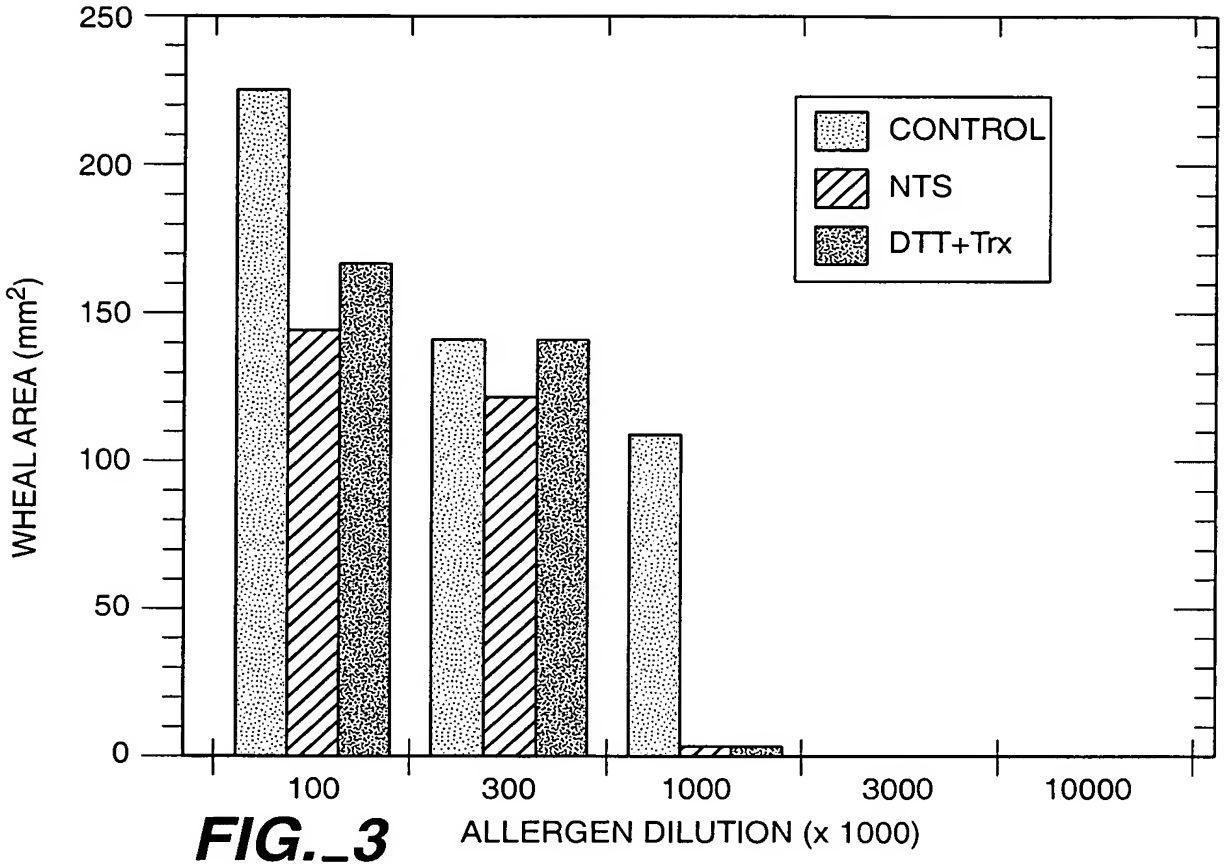

250
200
150
100
50
0
WHEAL AREA (mm2)
CONTROL
NTS
DTT+Trx
100
300
1000
3000
10000
ALLERGEN DILUTION (x 1000)

FIG._3

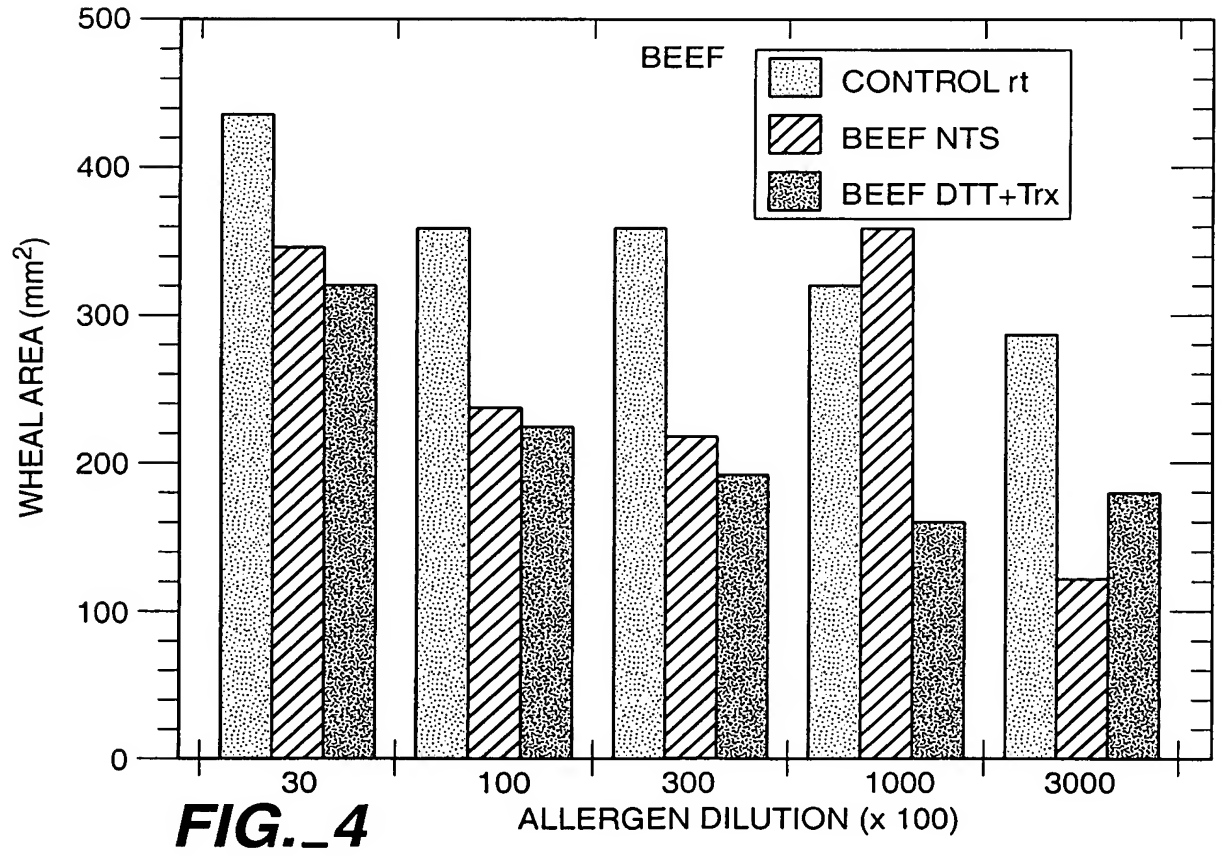

500
400
300
200
100
0
WHEAL AREA (mm2)
BEEF
CONTROL rt
BEEF NTS
BEEF DTT+Trx
30
100
300
1000
3000
ALLERGEN DILUTION (x 100)

FIG._4

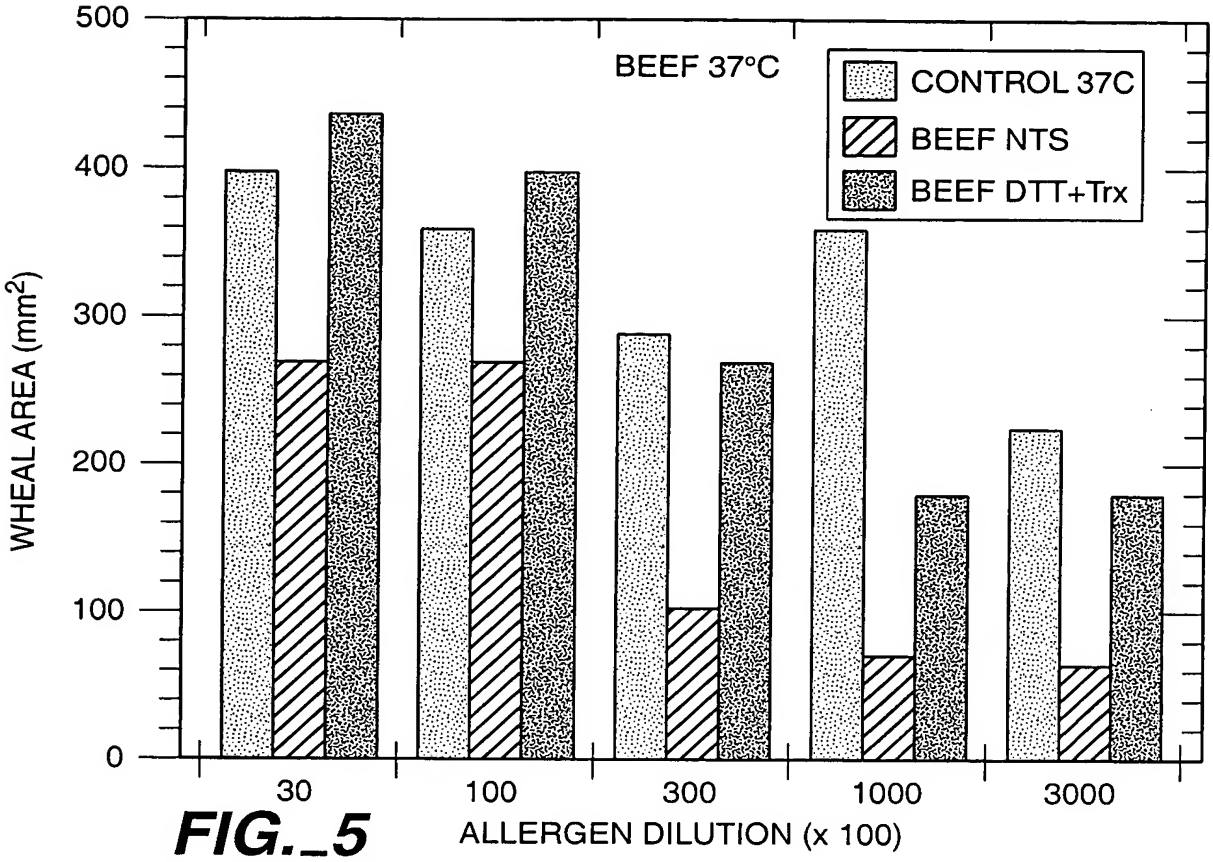

BEEF 37°C
CONTROL 37C
BEEF NTS
BEEF DTT+Trx
WHEAL AREA (mm²)
500
400
300
200
100
0
30
100
300
1000
3000
ALLERGEN DILUTION (x 100)

FIG._5

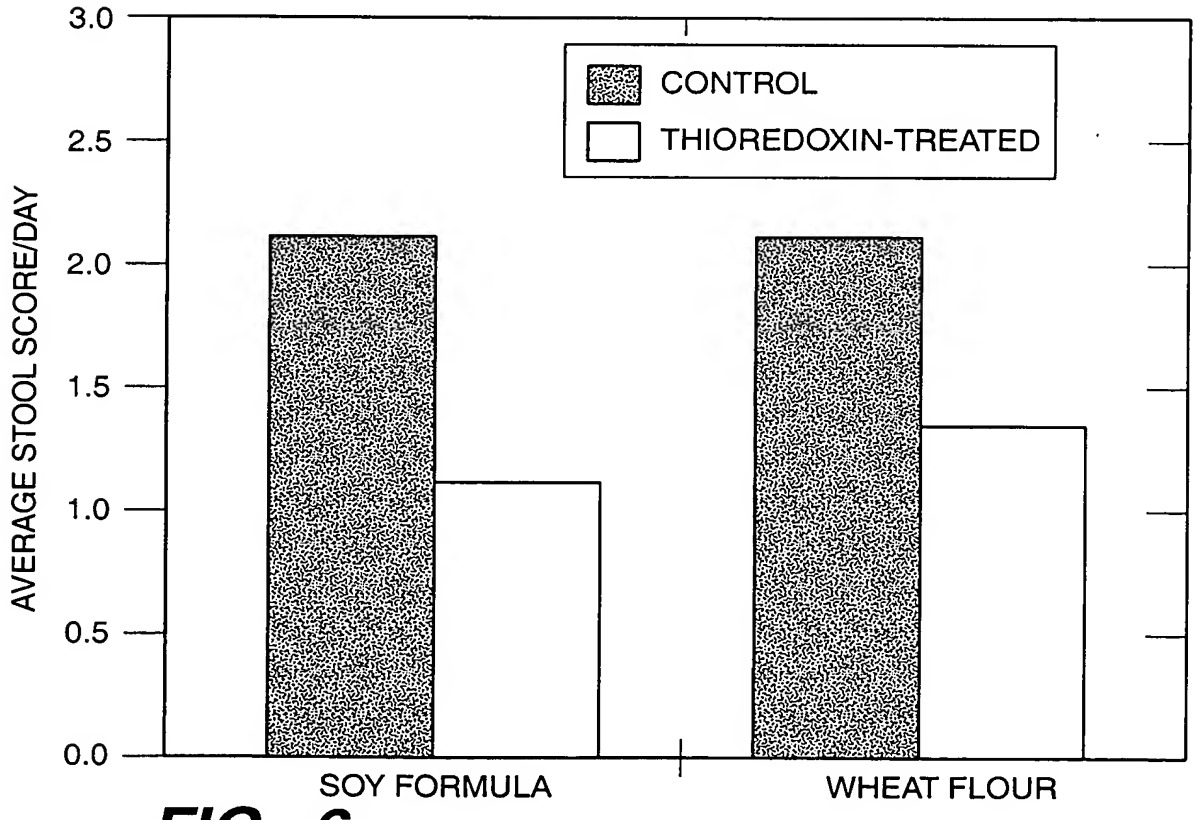

CONTROL
THIOREDOXIN-TREATED
AVERAGE STOOL SCORE/DAY
3.0
2.5
2.0
1.5
1.0
0.5
0.0
SOY FORMULA
WHEAT FLOUR

FIG._6

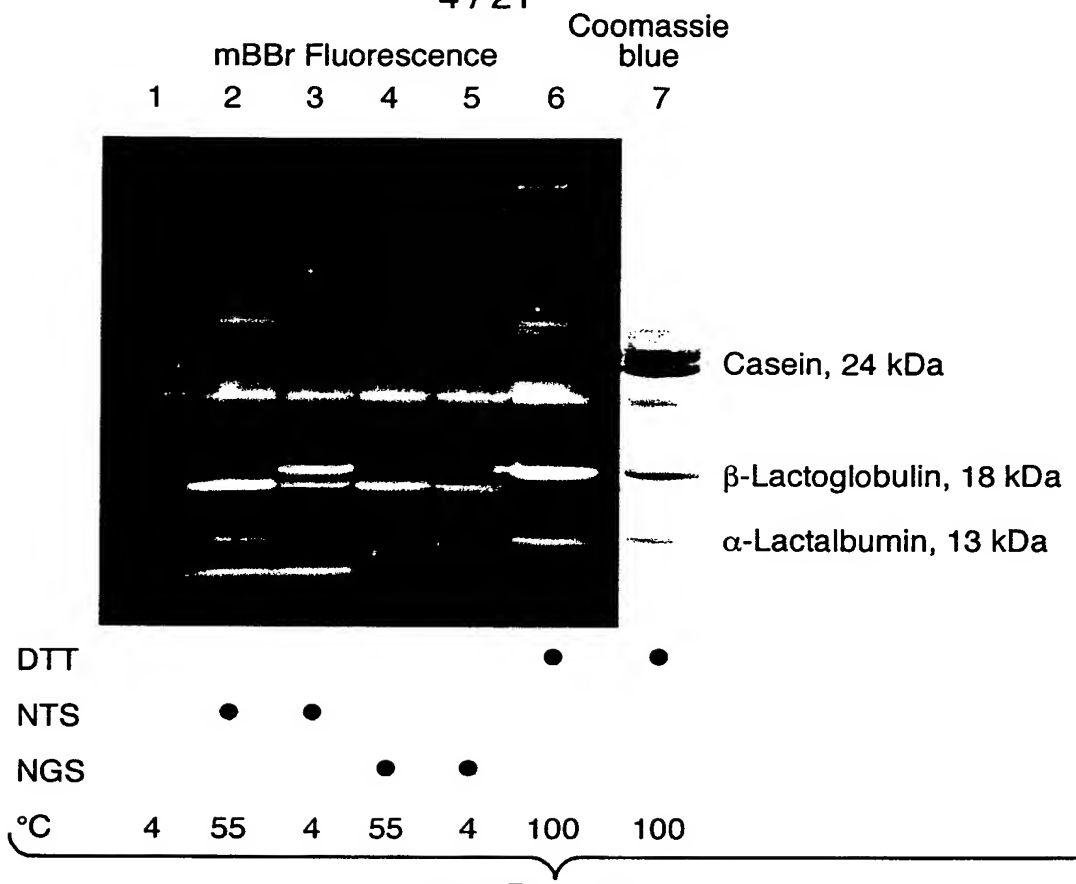

mBBr Fluorescence
Coomassie blue
1 2 3 4 5 6 7
Casein, 24 kDa
β-Lactoglobulin, 18 kDa
α-Lactalbumin, 13 kDa
DTT
NTS
NGS
°C 4 55 4 55 4 100 100

FIG._7

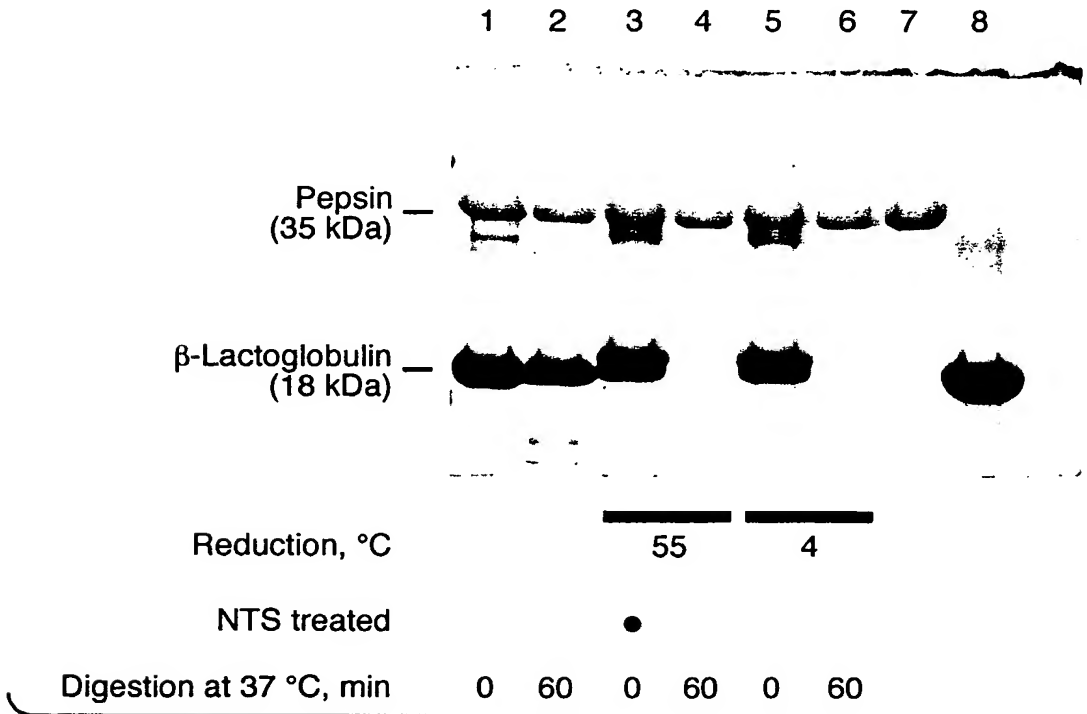

1 2 3 4 5 6 7 8
Pepsin (35 kDa)
β-Lactoglobulin (18 kDa)
Reduction, °C
55
4
NTS treated
Digestion at 37 °C, min 0 60 0 60 0 60

FIG._9

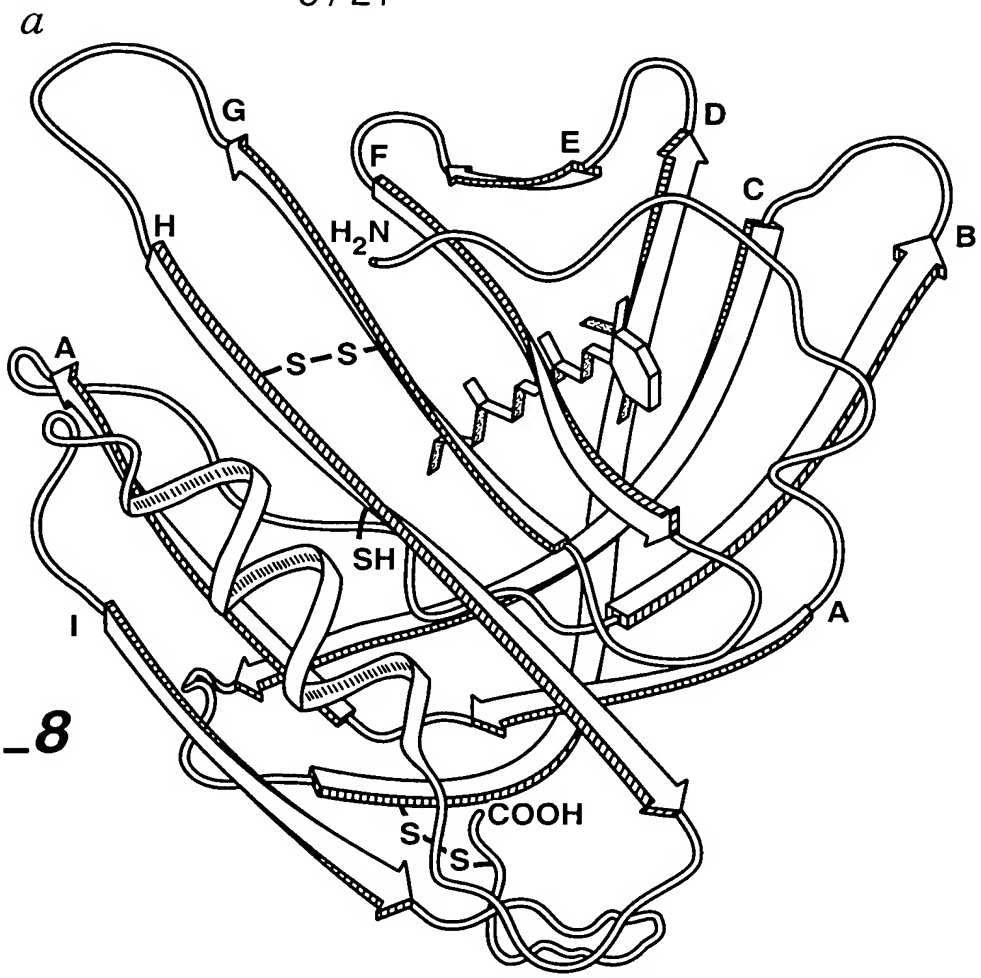

a
G
F
E
D
C
B
H
H_2N
A
S–S
SH
I
A
COOH
S
S

FIG._8

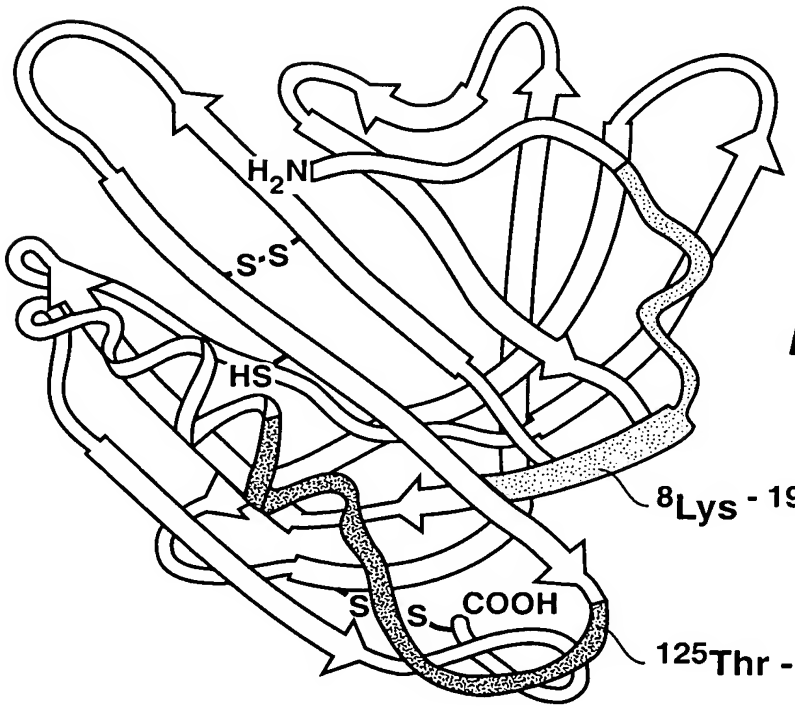

H_2N
S·S
HS
^{8}Lys - ^{19}Trp
S
S
COOH
^{125}Thr - ^{135}Lys

FIG._13

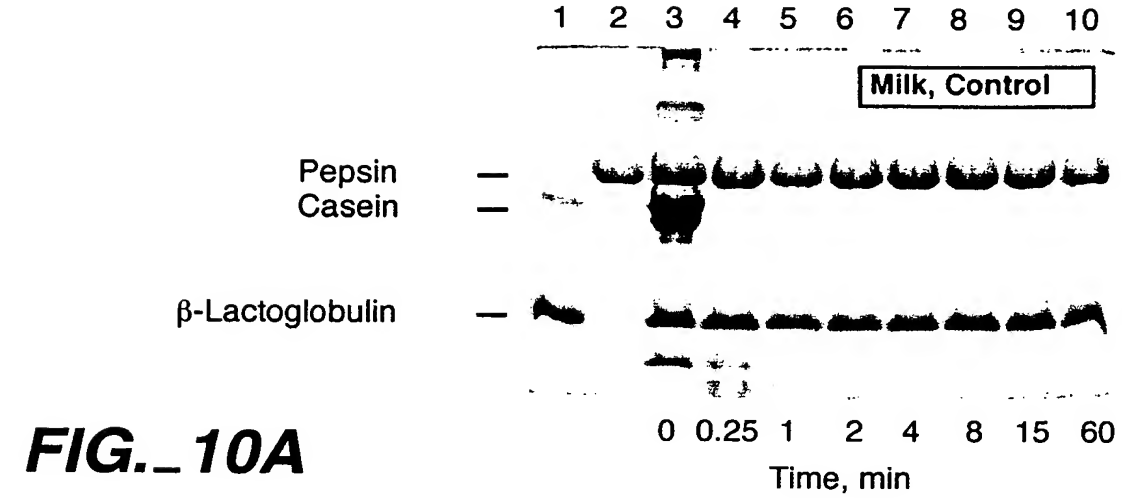


FIG._10A

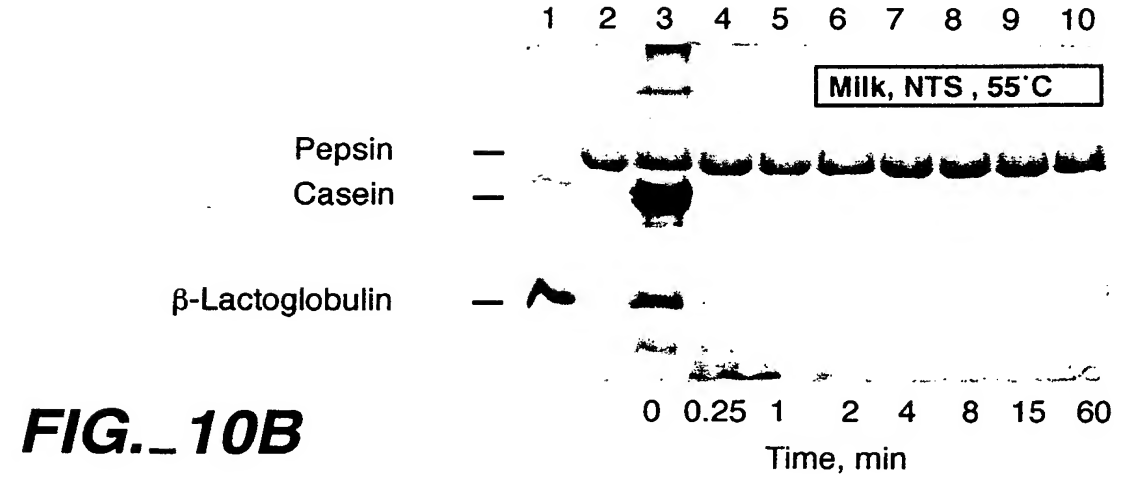


FIG._10B

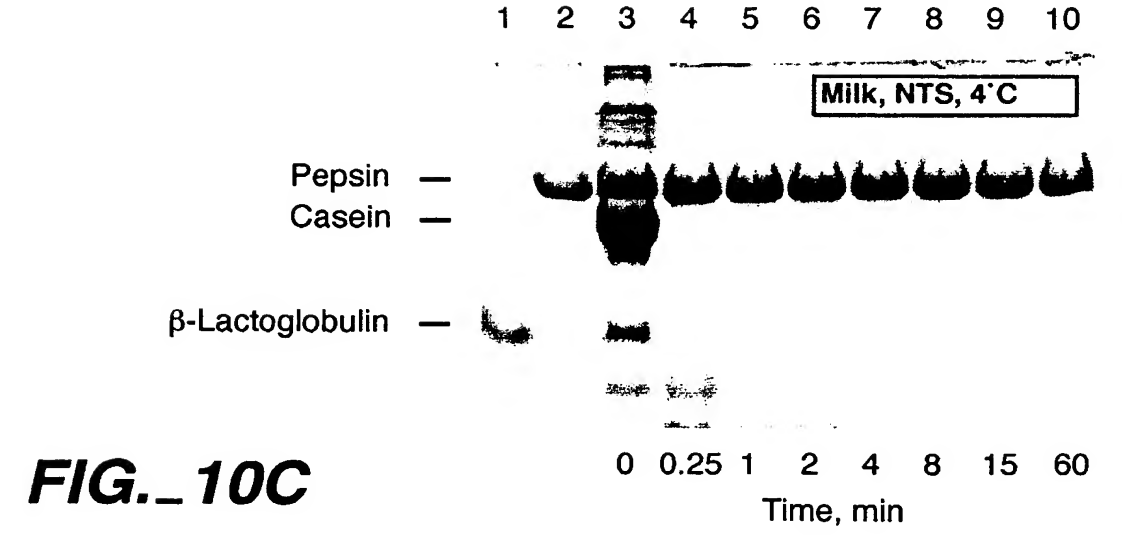


FIG._10C

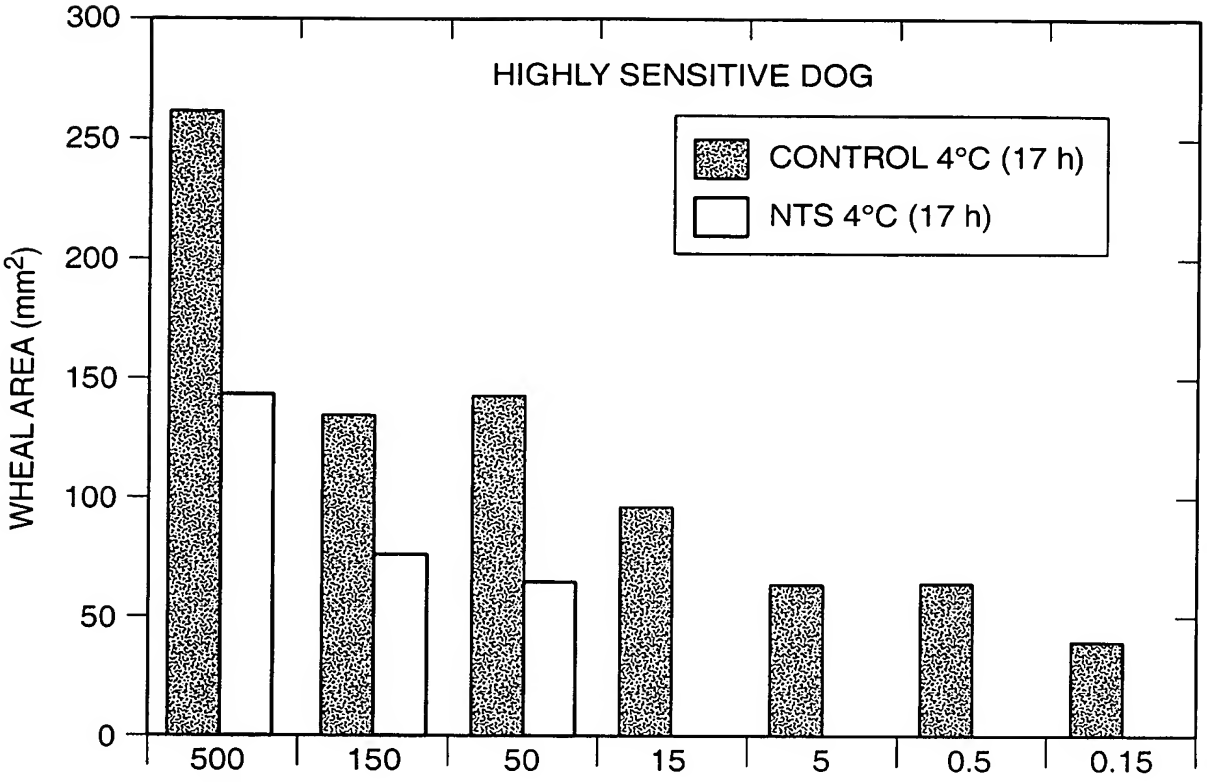


FIG._11A

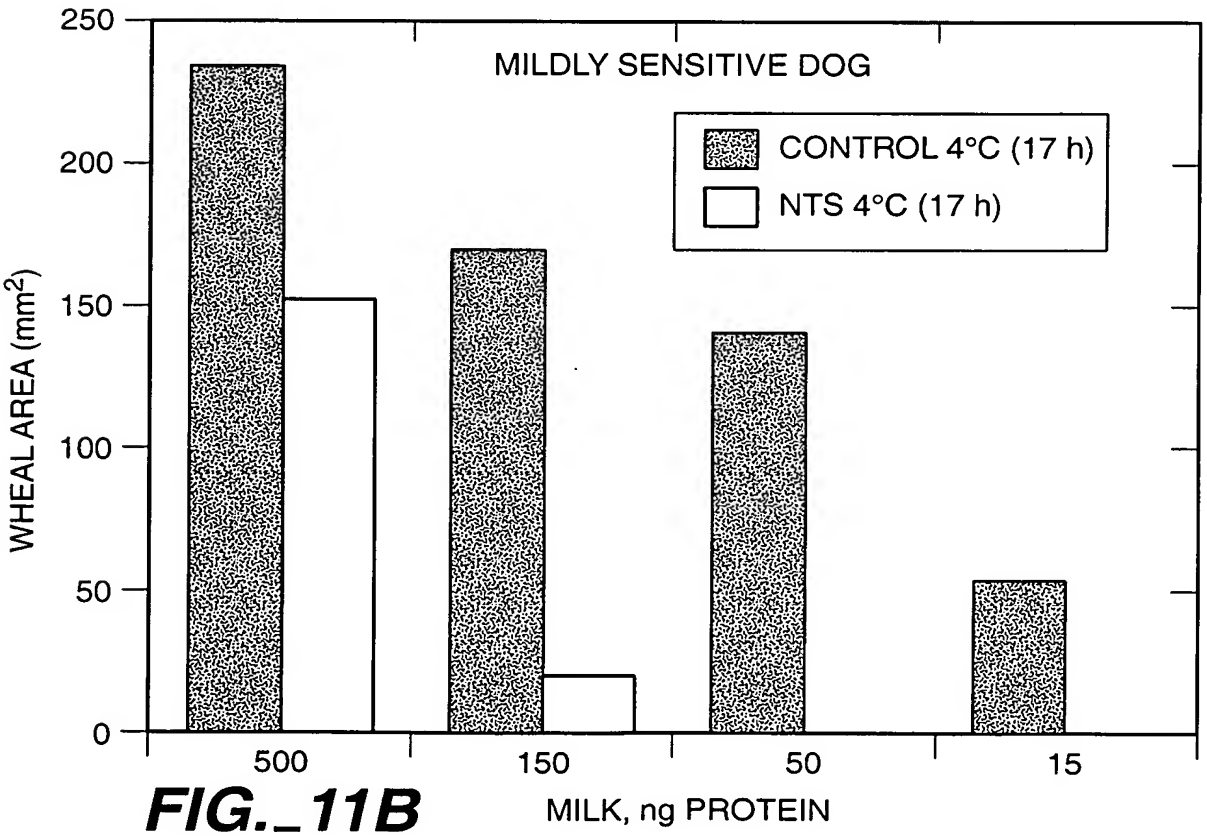


FIG._11B

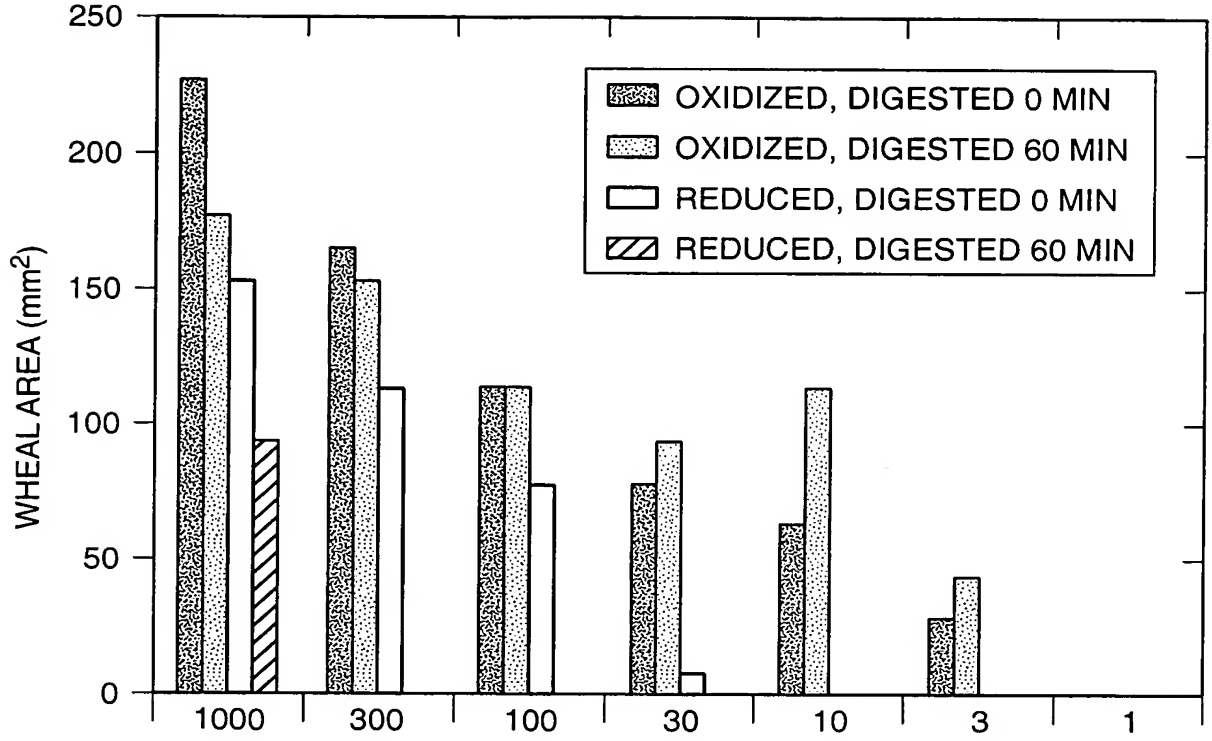


FIG._12A

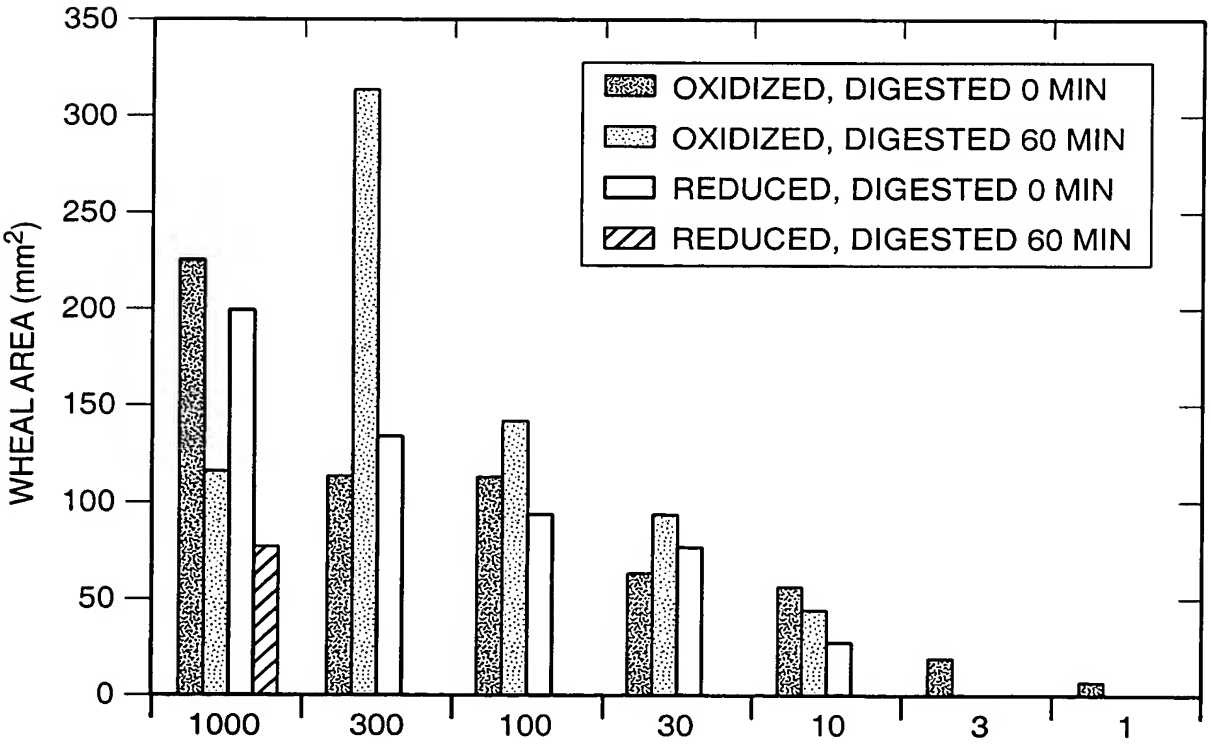


FIG._12B

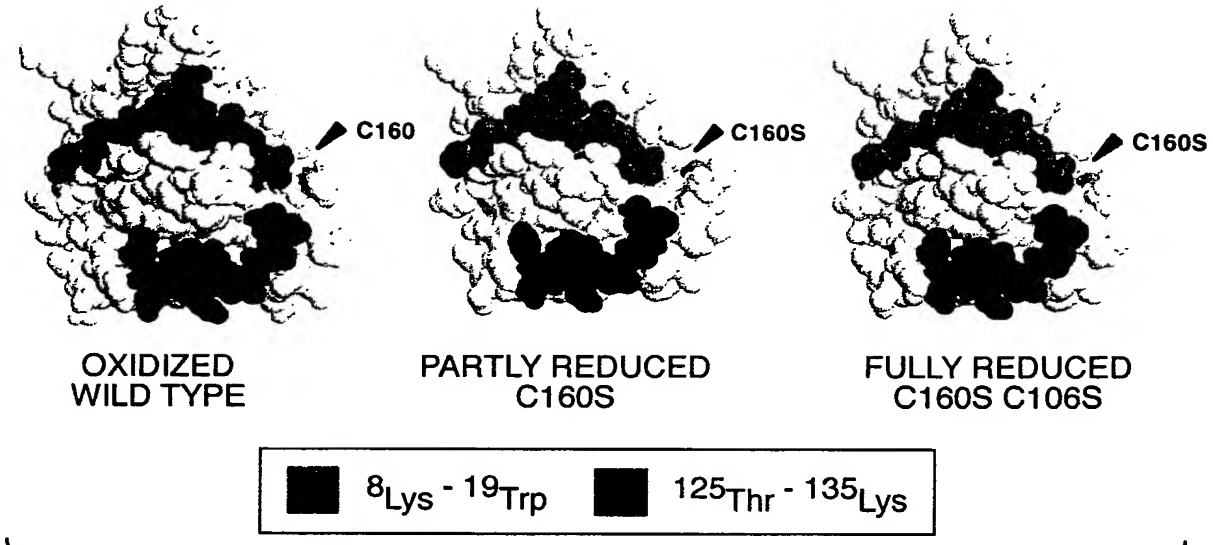

C160
C160S
C160S
OXIDIZED
WILD TYPE
PARTLY REDUCED
C160S
FULLY REDUCED
C160S C106S
^{8}Lys - ^{19}Trp
^{125}Thr - ^{135}Lys

FIG._14

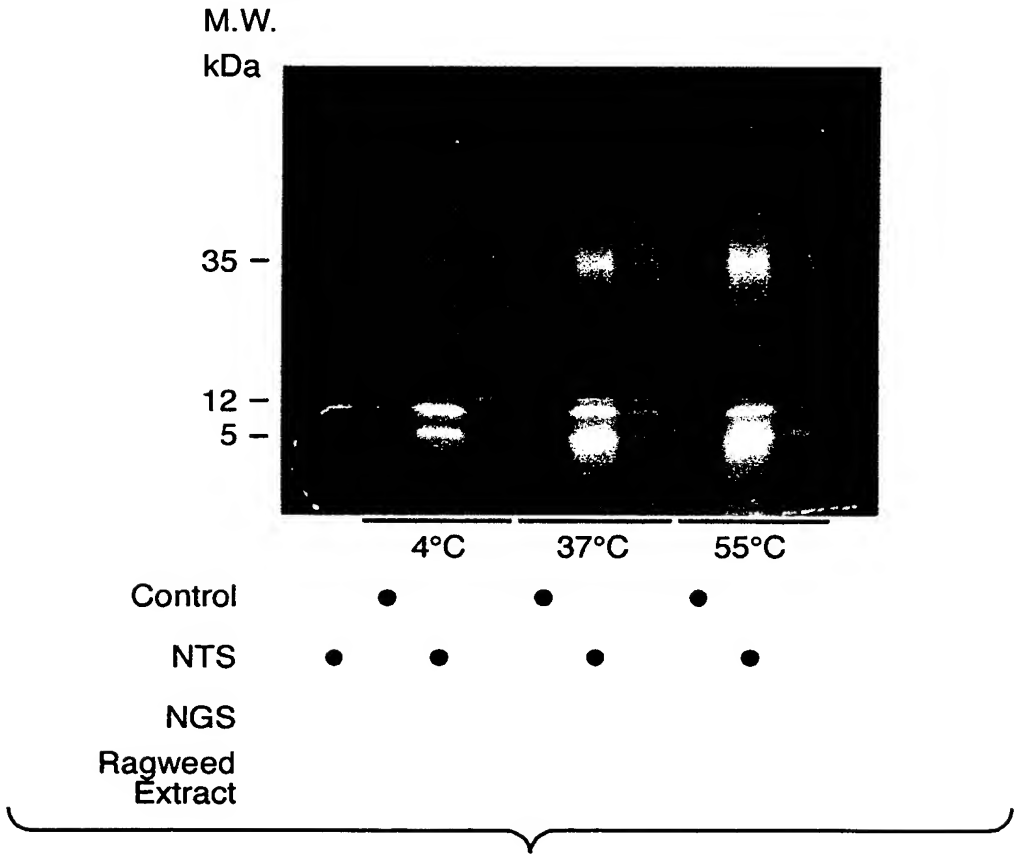

M.W.
kDa
35
12
5
4°C
37°C
55°C
Control
NTS
NGS
Ragweed
Extract

FIG._15

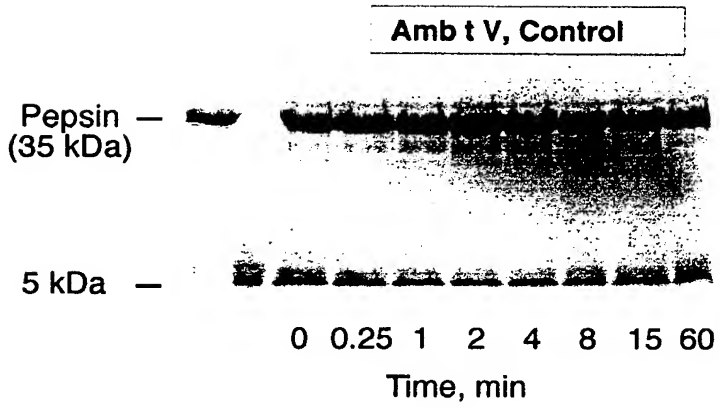


FIG._16A

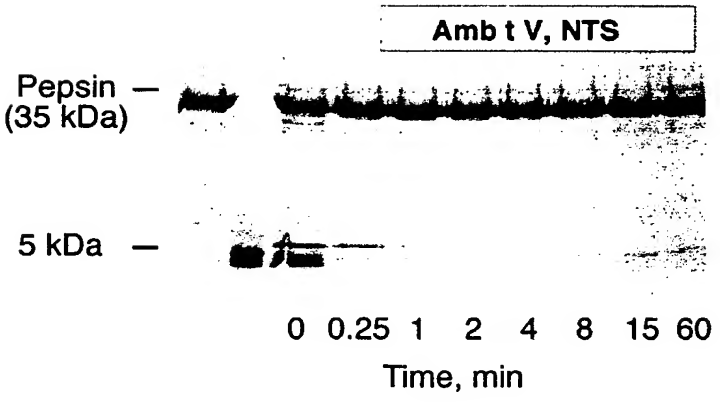


FIG._16B

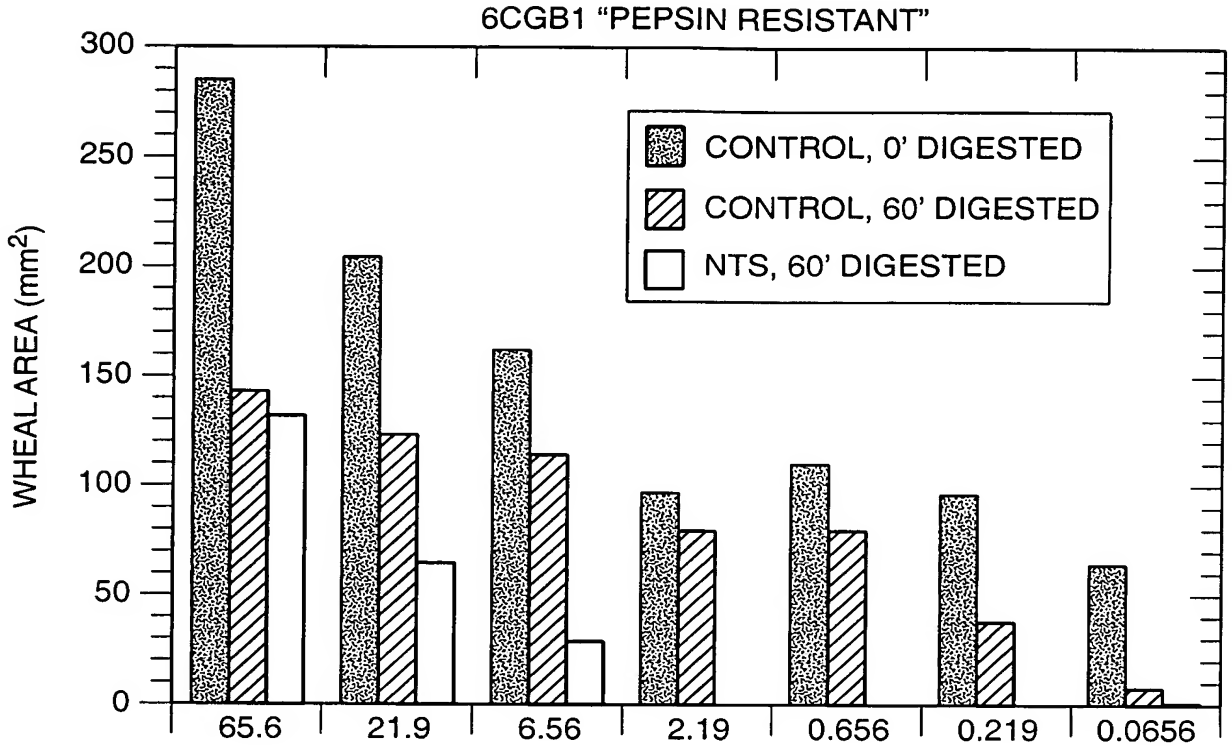


FIG._17A

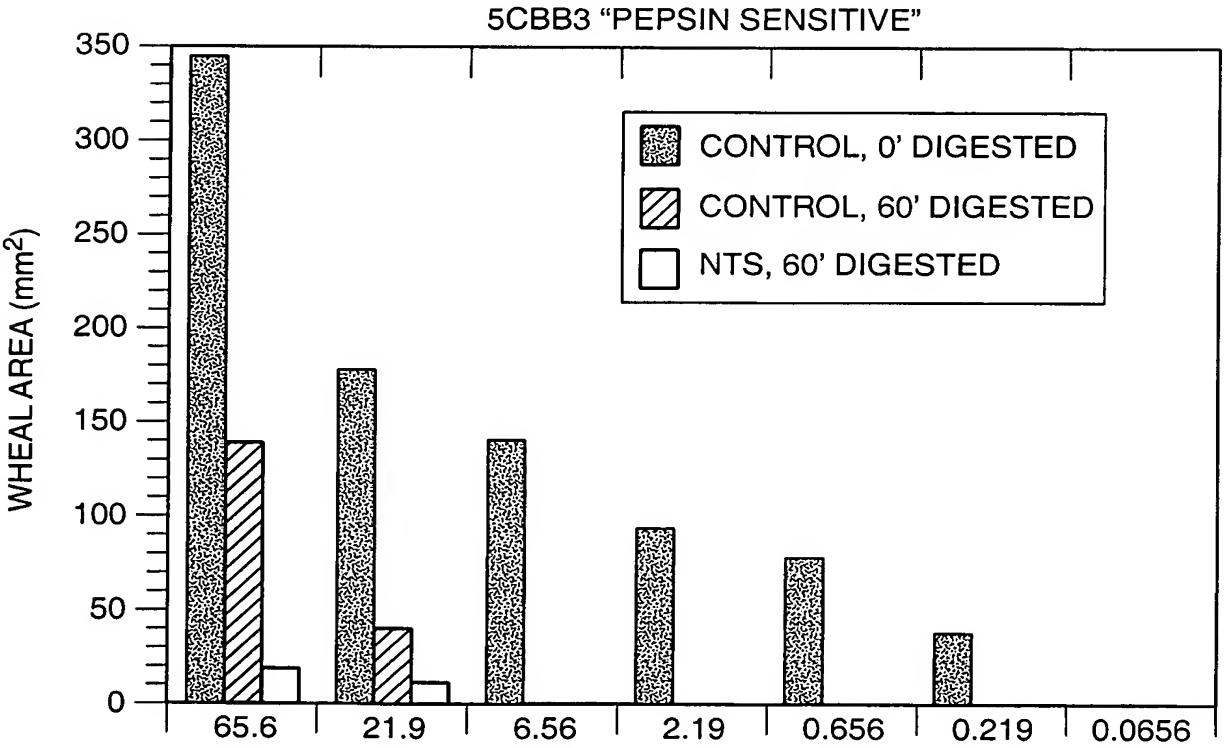


FIG._17B

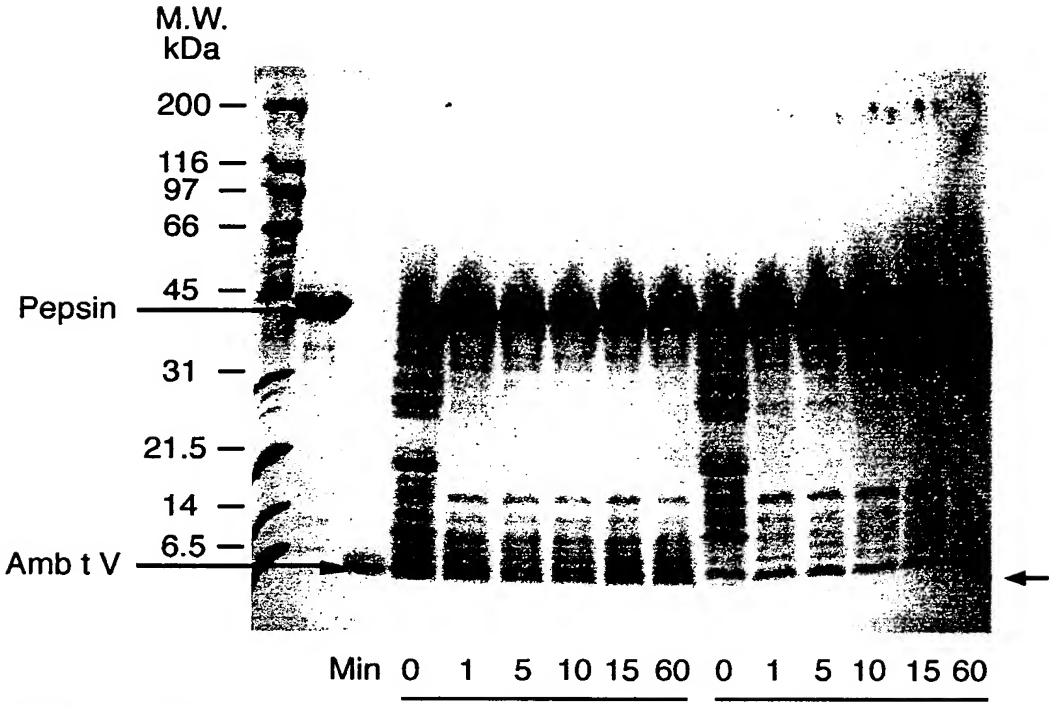


FIG._18A

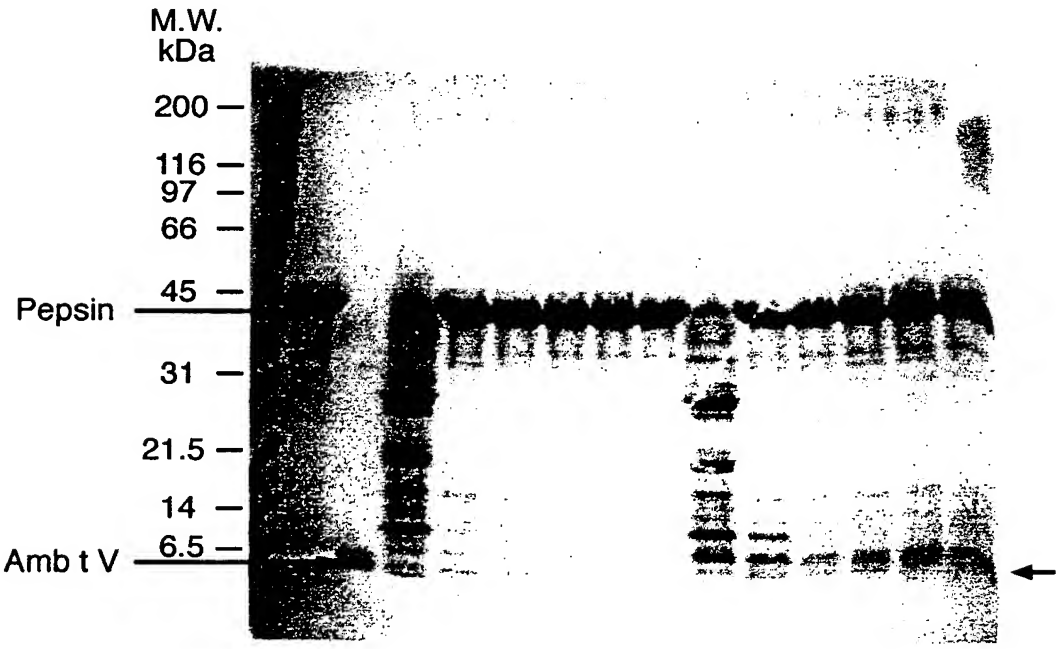
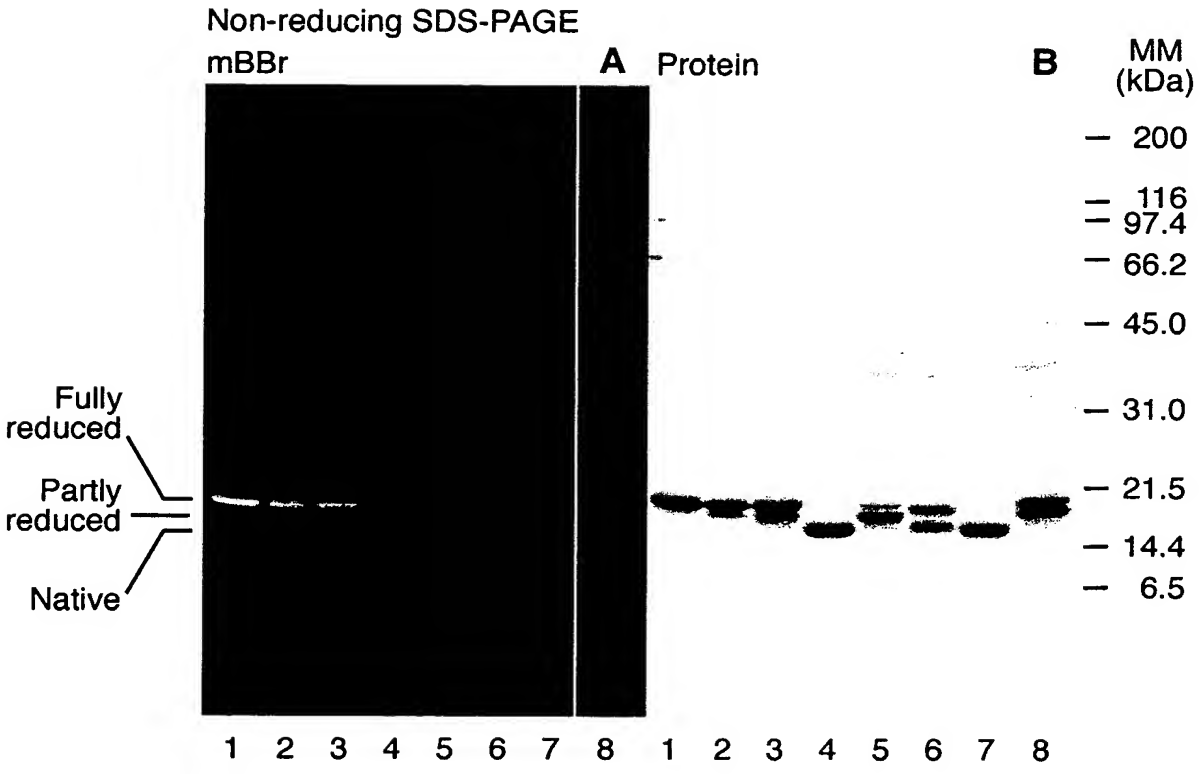


FIG._18B



1: ßLG boiled with 2.5 mM DTT
2: ßLG reduced with 2.5 mM DTT at 55°C
3: DTT-reduced ßLG after gel filtration
4: Control ßLG (Native)
5: Cystamine-treated ßLG
6: GSSG-treated ßLG
7: Reoxidized ßLG
8: DTT-reduced ßLG (After skin test)

FIG._19

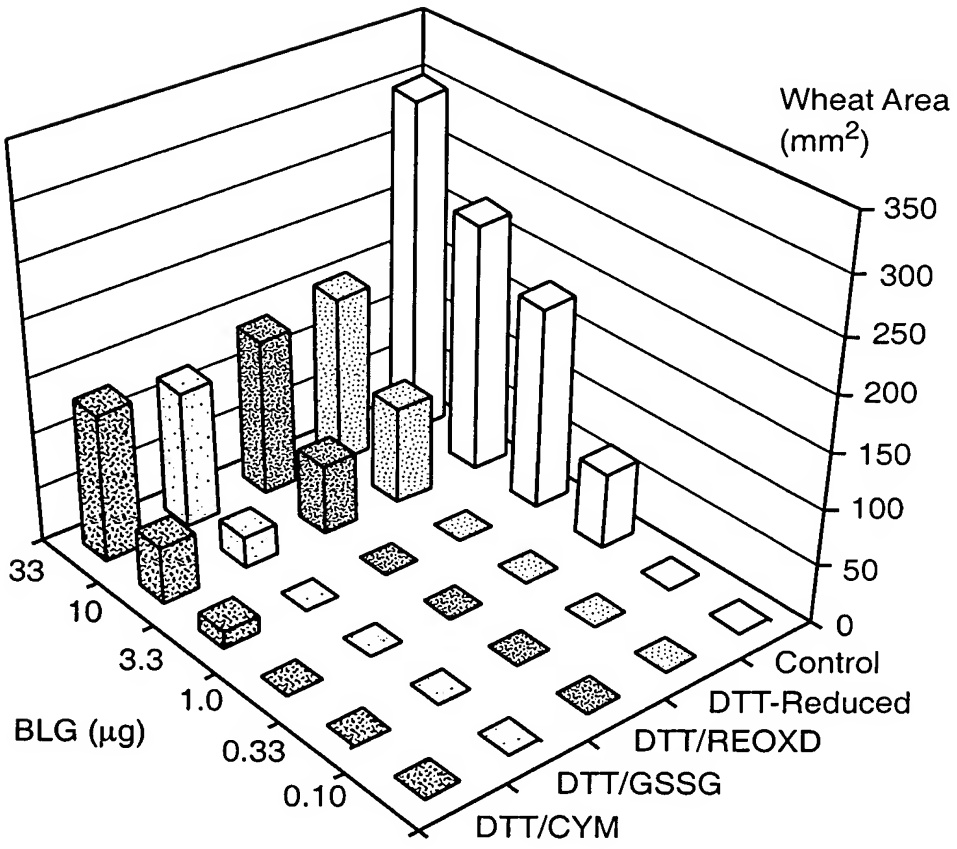
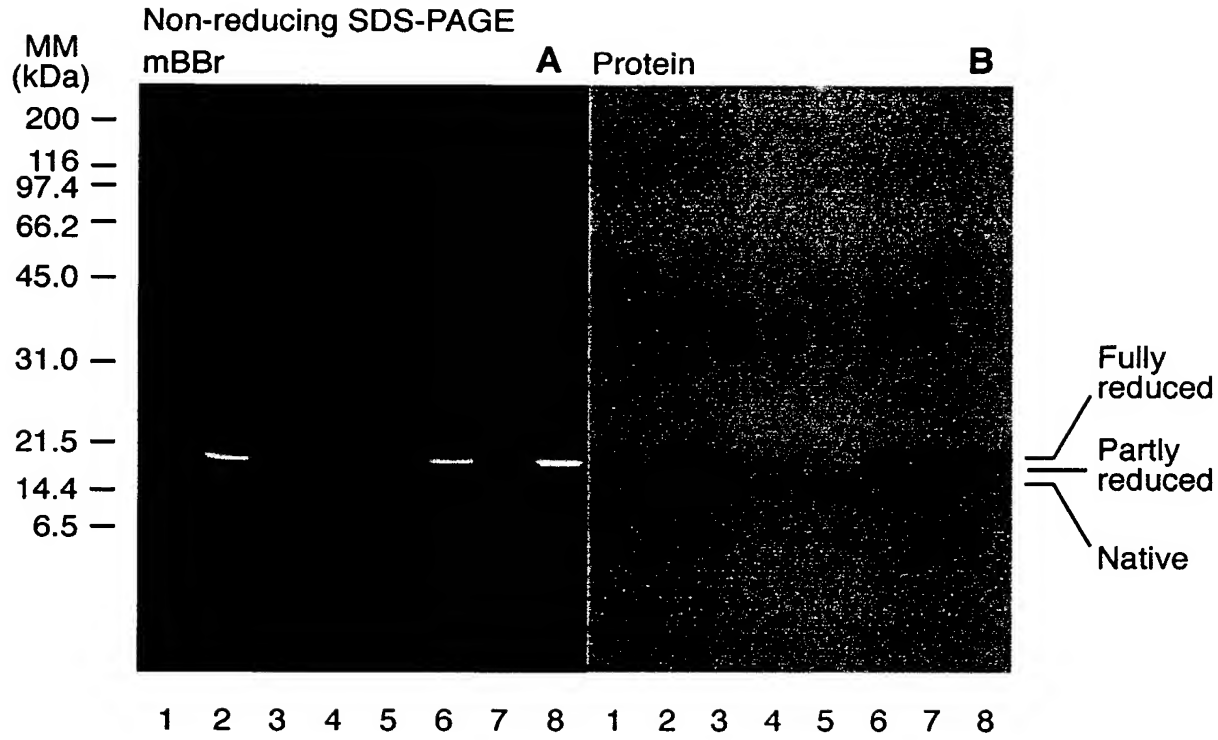

Wheat Area
(mm2)
350
300
250
200
150
100
50
0
33
10
3.3
1.0
0.33
0.10
BLG (µg)
Control
DTT-Reduced
DTT/REOXD
DTT/GSSG
DTT/CYM

FIG._20



1: Control
2: NTS-reduced
3: NTS/CYM
4: NTS/GSSG
5: NTS/REOXD
6: DTT-reduced
7: NTS-reduced/heated
8: Boiled with DTT

FIG._21

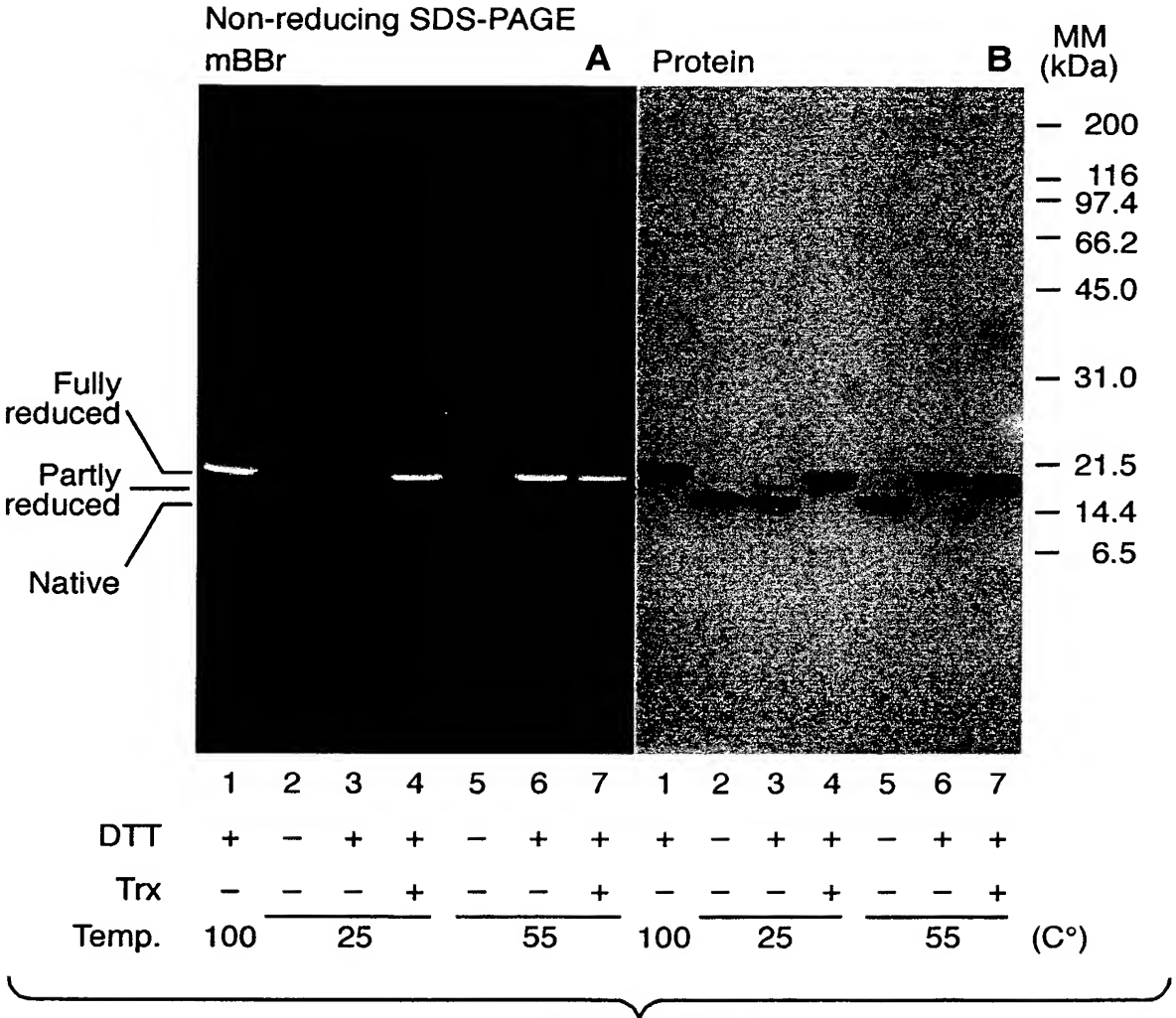

Non-reducing SDS-PAGE
mBBr
A
Protein
B
MM (kDa)
200
116
97.4
66.2
45.0
31.0
21.5
14.4
6.5
Fully reduced
Partly reduced
Native
1 2 3 4 5 6 7 1 2 3 4 5 6 7
DTT + − + + − + + + − + + − + +
Trx − − − + − − + − − − + − − +
Temp. 100 25 55 100 25 55 (C°)

FIG._22

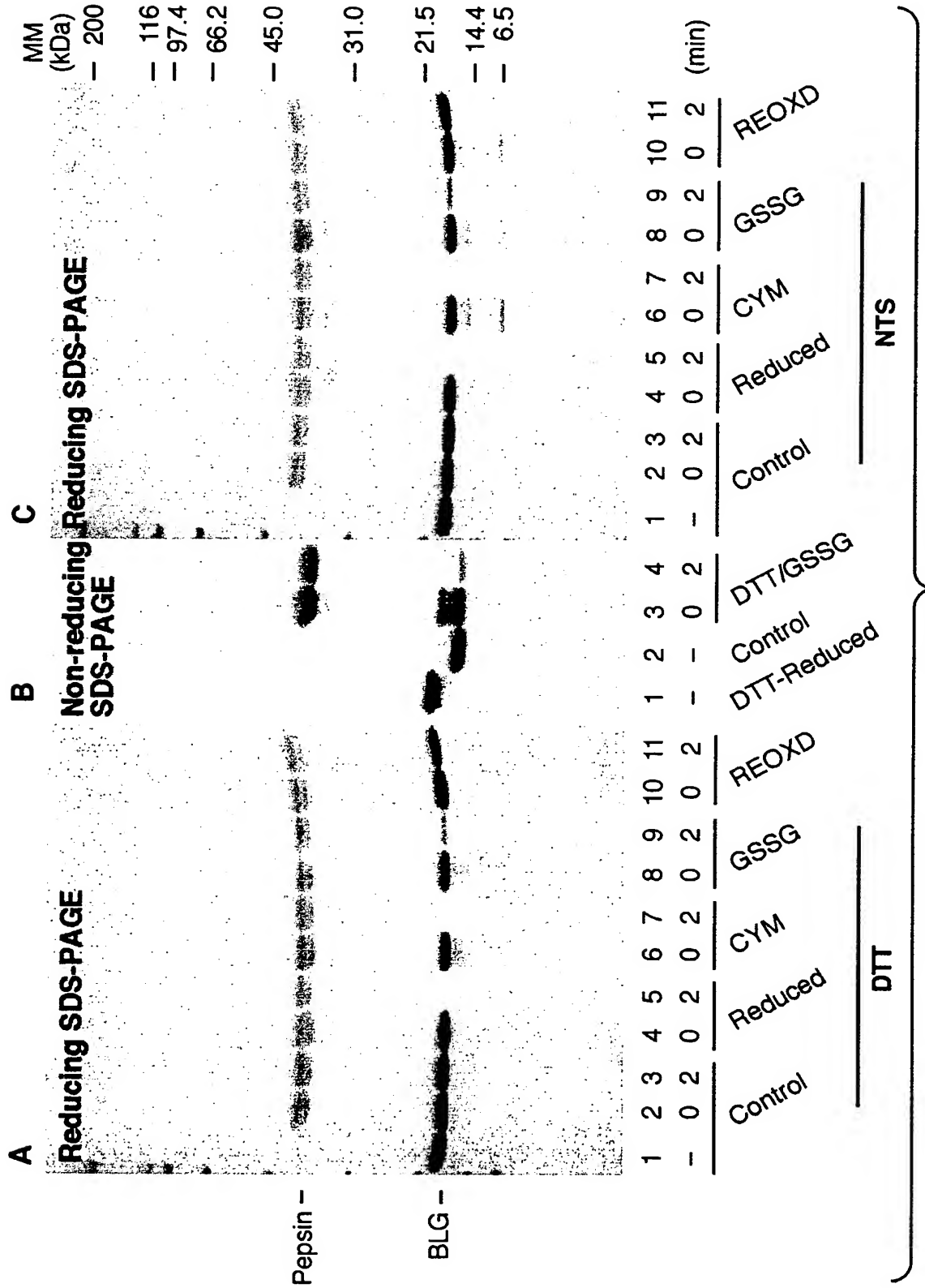

A
Reducing SDS-PAGE
B
Non-reducing SDS-PAGE
C
Reducing SDS-PAGE
MM (kDa)
200
116
97.4
66.2
45.0
31.0
21.5
14.4
6.5
Pepsin
BLG
1 2 3 4 5 6 7 8 9 10 11
– 0 2 0 2 0 2 0 2 0 2
Control
Reduced
CYM
GSSG
REOXD
DTT
1 2 3 4
– – 0 2
Control
DTT-Reduced
DTT/GSSG
1 2 3 4 5 6 7 8 9 10 11
– 0 2 0 2 0 2 0 2 0 2
Control
Reduced
CYM
GSSG
REOXD
NTS
(min)

FIG._23

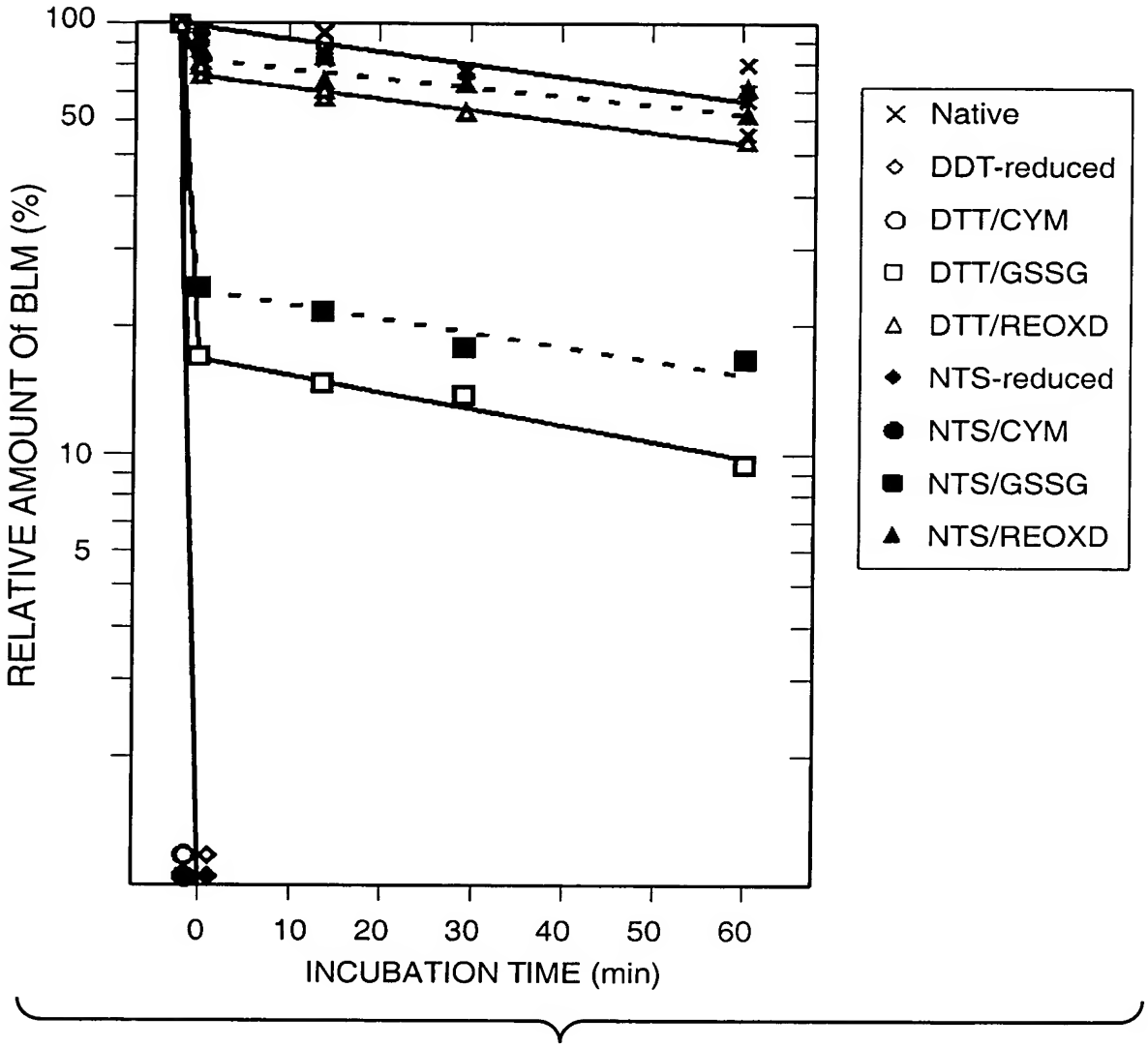

100
50
10
5
RELATIVE AMOUNT Of BLM (%)
0
10
20
30
40
50
60
INCUBATION TIME (min)
Native
DDT-reduced
DTT/CYM
DTT/GSSG
DTT/REOXD
NTS-reduced
NTS/CYM
NTS/GSSG
NTS/REOXD

FIG._24

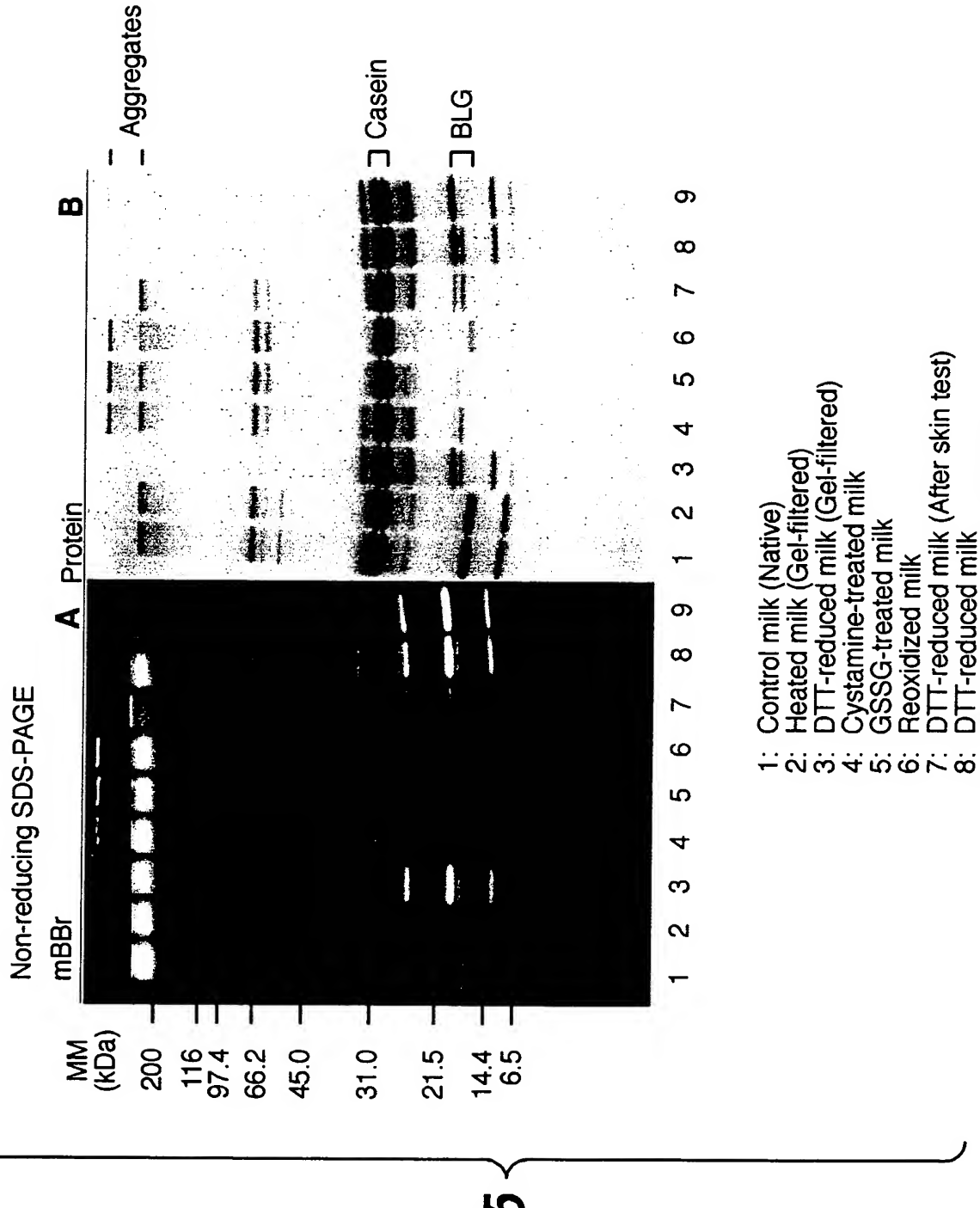

Non-reducing SDS-PAGE
mBBr
A
Protein
B
Aggregates
Casein
BLG
MM (kDa)
200
116
97.4
66.2
45.0
31.0
21.5
14.4
6.5
1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9
1: Control milk (Native)
2: Heated milk (Gel-filtered)
3: DTT-reduced milk (Gel-filtered)
4: Cystamine-treated milk
5: GSSG-treated milk
6: Reoxidized milk
7: DTT-reduced milk (After skin test)
8: DTT-reduced milk
9: Milk boiled with 2.5 mM DTT

FIG._25

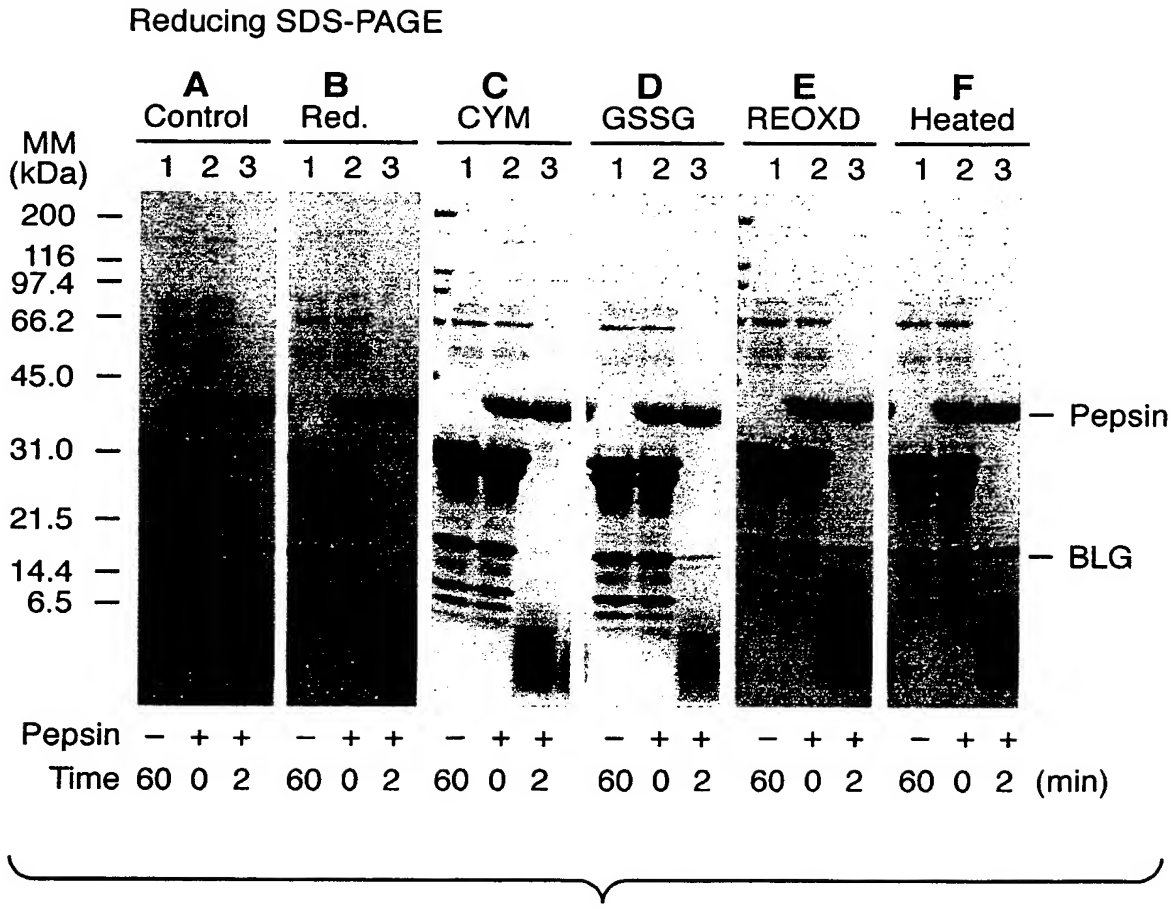

Reducing SDS-PAGE
A Control
B Red.
C CYM
D GSSG
E REOXD
F Heated
MM (kDa)
1 2 3
200
116
97.4
66.2
45.0
31.0
21.5
14.4
6.5
Pepsin
BLG
Pepsin − + + − + + − + + − + + − + + − + +
Time 60 0 2 60 0 2 60 0 2 60 0 2 60 0 2 60 0 2 (min)

FIG._26

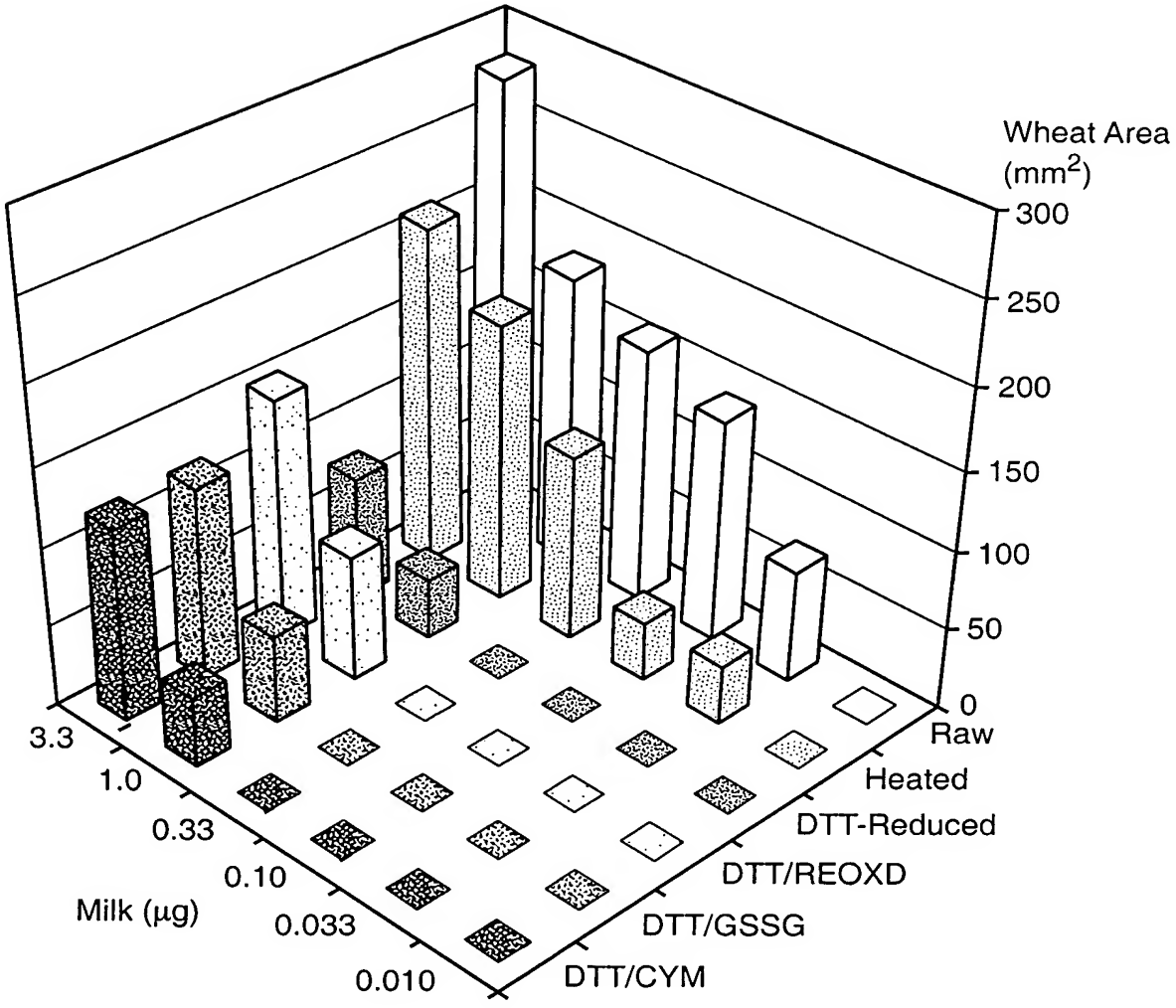

Wheat Area
(mm2)
300
250
200
150
100
50
0
Raw
Heated
DTT-Reduced
DTT/REOXD
DTT/GSSG
DTT/CYM
Milk (µg)
3.3
1.0
0.33
0.10
0.033
0.010

FIG._27